

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A V-belt type continuously variable transmission (CVT) for a vehicle, comprising:

a source of a line pressure;

primary and secondary pulleys arranged on input and output sides, the pulleys being subjected to primary-pulley and secondary-pulley pressures produced from the line pressure;

a V-belt looped over the primary and secondary pulleys, the V-belt engaging in V-grooves of the primary and secondary pulleys, the V-grooves being changed in width through a differential pressure between the primary-pulley and secondary-pulley pressures to achieve a target shift ratio of the CVT; and

an electronic control unit (ECU) which controls the line pressure, the ECU being programmed to:

input a first torque signal obtained by estimating an estimated engine torque in accordance with an engine rotation speed ~~vehicle operating conditions~~ and the target shift ratio in accordance with vehicle operating conditions;

input a second torque signal obtained by detecting an actual ~~the~~ engine torque, wherein the actual engine torque is derived by calculating at least the engine rotation speed and a fuel injection period;

synthesize the first and second torque signals to provide an estimated-torque signal; and

control the line pressure in accordance with the estimated-torque signal.

2. (Previously Presented) The V-belt type continuously variable transmission (CVT) as claimed in claim 1, wherein the ECU is further programmed to set the first torque signal as the estimated-torque signal when the engine torque rises.

3. (Previously Presented) The V-belt type continuously variable transmission (CVT) as claimed in claim 1, wherein the ECU is further programmed to:

subject the first torque signal to differential processing and smoothing processing;

determine a sum of the first torque signal as subjected and the second torque signal;

and

determine a greater one of the first and second torque signals;
determine a smaller one of the sum and the greater one; and
set the smaller one as the estimated-torque signal.

4. (Currently Amended) A vehicle, comprising:

a source of a line pressure;

a V-belt type continuously variable transmission (CVT), comprising:

primary and secondary pulleys arranged on input and output sides, the pulleys being subjected to primary-pulley and secondary-pulley pressures produced from the line pressure; and

a V-belt looped over the primary and secondary pulleys, the V-belt engaging in V-grooves of the primary and secondary pulleys, the V-grooves being changed in width through a differential pressure between the primary-pulley and secondary-pulley pressures to achieve a target shift ratio of the CVT; and

an electronic control unit (ECU) which controls the line pressure, the ECU being programmed to:

input a first torque signal obtained by estimating an estimated engine torque in accordance with an -engine rotation speed ~~vehicle—operating conditions~~ and the target shift ratio in accordance with vehicle operating conditions;

input a second torque signal obtained by detecting an actual ~~the~~ engine torque, wherein the actual engine torque is derived by calculating at least the engine rotation speed and a fuel injection period;

synthesize the first and second torque signals to provide an estimated-torque signal; and

control the line pressure in accordance with the estimated-torque signal.

5. (Original) The vehicle as claimed in claim 4, wherein the ECU is further programmed to set the first torque signal as the estimated-torque signal when the engine torque rises.

6. (Original) The vehicle as claimed in claim 4, wherein the ECU is further programmed to:

subject the first torque signal to differential processing and smoothing processing;
determine a sum of the first torque signal as subjected and the second torque signal;
and
determine a greater one of the first and second torque signals;
determine a smaller one of the sum and the greater one; and
set the smaller one as the estimated-torque signal.

7. (Currently Amended) A method of controlling a V-belt type continuously variable transmission (CVT) for a vehicle, the CVT comprising:

a source of a line pressure;
primary and secondary pulleys arranged on input and output sides, the pulleys being subjected to primary-pulley and secondary-pulley pressures produced from the line pressure;
and

a V-belt looped over the primary and secondary pulleys, the V-belt engaging in V-grooves of the primary and secondary pulleys, the V-grooves being changed in width through a differential pressure between the primary-pulley and secondary-pulley pressures to achieve a target shift ratio of the CVT,

the method comprising:

inputting a first torque signal obtained by estimating an estimated engine torque in accordance with an engine rotation speed ~~vehicle operating conditions~~ and the target shift ratio in accordance with vehicle operating conditions;

inputting a second torque signal obtained by detecting an actual ~~the~~ engine torque, wherein the actual engine torque is derived by calculating at least the engine rotation speed and a fuel injection period;

synthesizing the first and second torque signals to provide an estimated-torque signal;
and

controlling the line pressure in accordance with the estimated-torque signal.

8. (Original) The method as claimed in claim 7, further comprising:
setting the first torque signal as the estimated-torque signal when the engine torque rises.

9. (Original) The method as claimed in claim 7, further comprising:
subjecting the first torque signal to differential processing and smoothing processing;

determining a sum of the first torque signal as subjected and the second torque signal;
and
determining a greater one of the first and second torque signals;
determining a smaller one of the sum and the greater one; and
setting the smaller one as the estimated-torque signal.